Bay Area ITS Plan Update

DRAFT

Project Inclusion Criteria

Prepared for:

Metropolitan Transportation Commission

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TABLE OF CONTENTS

DRAFT – Project Inclusion Criteria

1. PROJECT OVERVIEW

MTC is beginning a 10-month process to update the existing Bay Area ITS Plan (Plan), which includes the Regional ITS Architecture, originally published in October 2004. The Bay Area ITS Plan is scheduled for completion in November 2007 in time to inform the 2009 Regional Transportation Plan.

The Bay Area ITS Plan is a tool to help ITS project sponsors develop projects by providing a basic framework for how different ITS projects in the region fit together, encouraging stakeholder involvement in project planning, and promoting the use of common design and communication standards. A major goal of the Plan is the integration of ITS projects so that data can be cost-effectively shared between projects. The Architecture portion of the Plan is important because, per federal law, most ITS projects must demonstrate that they comply with the Architecture in order to receive federal funds.

MTC and their consultants, Kimley-Horn and Associates, Inc. (KHA) are updating the ITS Plan to make it current, to meet new federal requirements and to make it a more user-friendly planning document. As part of the update, KHA will be writing a series of memorandums to provide in-depth analysis of different sections of the Plan. This is the first memo in the series, which will discuss project inclusion criteria. The project inclusion criteria explains which projects need to be submitted for inclusion to the ITS Plan.

2. REPORT OVERVIEW

The purpose of this report is to provide guidelines for ITS stakeholders about which projects need to be submitted for the Bay Area ITS Plan. The document is organized into the following sections:

Section 3. Project Definition

Section 4. Does my project need to be submitted?

Section 5. If my project is not listed, where is it?

Section 6. Regional ITS Architecture Inclusion Criteria Case Study

Section 7. Conclusion

3. PROJECT INVENTORY

The Bay Area ITS Plan is a regional planning document for intelligent transportation systems that is used to coordinate implementation of ITS projects. The plan contains an inventory of ITS projects, which is linked to an implementation schedule and interactive diagrams that show how data is shared between systems. The purpose of the ITS project inventory is twofold:

1. It allows agencies to prove compliance with FHWA's Final Rule and FTA's Policy. The Final Rule/Policy requires agencies to show conformance with the Regional ITS Architecture (included in the Bay Area ITS Plan) for all projects funded with the Highway Trust Fund.

2. It promotes coordination of Bay Area ITS activities. The ITS Plan is a planning document used to coordinate implementation schedules and data sharing. It shows which projects are existing and which are planned over the next ten years in order to coordinate funding,

maximize utility of the existing infrastructure, and identify how to address gaps in information.

The project inventory is one input for the Plan. The inventory is comprised of projects submitted by stakeholders in the region. Projects are grouped into the following categories:

1. Archived Data Management
2. Public Transportation
3. Traveler Information
4. Traffic Management
5. Vehicle Safety
6. Commercial Vehicle Operations
7. Emergency Management
8. Maintenance and Construction Management

These categories are based on federal guidelines that organize basic ITS services. The following table lists example projects for each of the ITS categories.

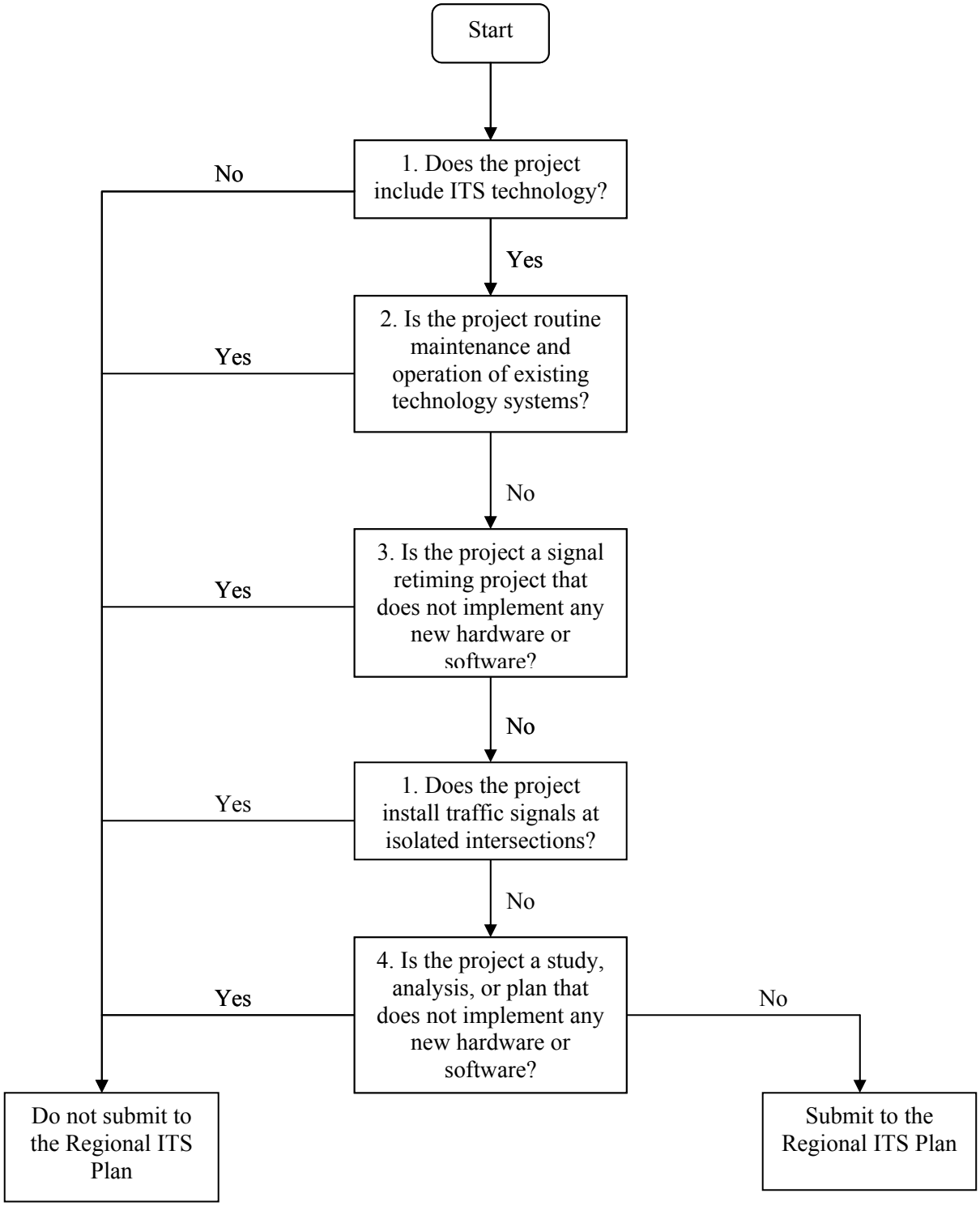
ITS Project Category	ITS Project Example
Archived Data Management	Performance Monitoring System (PeMS)
Public Transportation	AC Transit's Next Bus, Translink fare collection
Traveler Information	511.org
Traffic Management	SFgo Transportation Management System
Vehicle Safety	Vehicle Infrastructure Integration
Commercial Vehicle Operations (CVO)	CVO Weight Stations
Emergency Management	CHP's Computer Aided Dispatch (CAD)
Maintenance and Construction Management	Bay Area Incident Response System (BAIRS)

The existing Bay Area ITS Plan established a baseline that includes the projects collected in 2002 and projects added through maintenance efforts since the Plan was released. The update of the ITS Plan will add ITS projects to the inventory that were not included in the baseline and are planned through 2017.

4. DOES MY PROJECT NEED TO BE SUBMITTED TO THE ITS PLAN?

The criteria to decide whether to submit a project to the Bay Area ITS Plan are organized as a flowchart shown in **Figure 1** so that stakeholders can easily examine each of their projects through the identification and decision making process to decide whether the project should be submitted to the Plan. The detailed explanation for each criterion follows.

Figure 1: Decision Making Process of Whether to Submit Projects to the Bay Area ITS Plan



1. **Does the project include ITS technology?**

   As defined by FHWA[1], ITS encompasses a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies relieve congestion, improve safety and enhance productivity.

   An ITS project consists of the design, deployment, replacement, or upgrade of any information communication and electronics technologies, including both software and hardware. If not, the project is not an ITS project and does not need to be submitted to the Bay Area ITS Plan.

   For example, installing a speed limit sign at an intersection is not an ITS project because there is no technology involved. However, installing an electronic message sign that can disseminate real time traffic instructions from a remote control center is an ITS project because it requires technology to communicate information from the control center to the public.

2. **Can this ITS project be exempt from being submitted to the Bay Area Regional ITS Plan?**

   There are several types of ITS projects that have little impact on other components of the Bay Area ITS Plan. These projects do not need to be submitted to the Plan. If your project satisfies any one of the following criteria, it does not need to be submitted to the Bay Area ITS Plan:

   - ☐ Routine maintenance and operation of existing technology systems.
   - ☐ Signal re-timing projects that do not implement any new hardware or software.
   - ☐ Installing traffic signals at isolated intersections.
   - ☐ Studies, analyses, or plans that do not implement any new hardware or software.

   Note that replacement of existing systems that add new functions should be submitted to the Bay Area ITS Plan. Examples of new functions are:

   - new types of data being shared or received
   - new connections to agencies or partners
   - new services provided under the ITS project categories described above.

   New functions are independent of technology selection. For instance, if a system changes their CCTV cameras to a different technology, but the same images are being sent to the same agencies, this does not add new functions. If an agency switches from wire line to wireless, but nothing else changes, no new functions are added.

   All ITS projects with the exception of those listed as exempt under criterion 2 should be submitted to the Bay Area ITS Plan.

5. IF MY PROJECT IS NOT LISTED, WHERE IS IT?

The ITS Plan is a living document. Regular minor updates or maintenance is performed continuously. When necessary, major updates are scheduled to coincide with the Regional Transportation Plan update. The project list is updated during the maintenance of the Plan.

[1] FHWA ITS Joint Program Office, *What is ITS?* http://www.its.dot.gov/its_overview.htm

A project may still be in conformance with the ITS Plan without being listed in the inventory. Many smaller projects in the same category may be lumped together under one generalized project name. An example is emergency vehicle systems in different local jurisdictions. These may not be listed under the specific city but may be shown as "Sub-Regional and Local City/County emergency vehicles." Any project that falls under the general description is considered in conformance with the Plan and does not need to be listed as a separate project title. Other projects that are not covered by the general project descriptions can be submitted for maintenance of the Plan at http://www.mtc.ca.gov/planning/ITS/. Further guidance on this subject will be forthcoming.

6. BAY AREA ITS PLAN INCLUSION CASE STUDIES

The following case studies represent a few frequently encountered scenarios when deciding whether a project should be submitted to the Bay Area ITS Plan. The answers and explanations are provided following the cases.

1. A city needs to refine the signal timing along one of its major arterials without replacing the existing field equipment and control software.

This project should not be submitted to the Bay Area ITS Plan because, as shown in criterion 2 above, it is a signal re-timing project that does not implement any new hardware or software.

2. Transit Agency X plans to design an electronic fare collection system which accepts pre-paid fare cards. The electronic fare collection system will be implemented on its transit system.

This project should be submitted to the Bay Area ITS Plan because it does not fall under any of the exempt categories in criterion 2

3. Transit Agency X decides to allocate more budget and staff to build an O&M team for the daily operation and maintenance of its electronic fare collection system in the next fiscal year.

This project should not be included in the Bay Area ITS Plan because it is routine operation and maintenance of an existing system.

4. A Regional Planning Agency is beginning a study of the feasibility of ITS to relieve weekend freeway congestion. The study will explore the benefits of ITS and types of technology applications.

This project should not be included in the Bay Area ITS Plan because it is a planning study. However, specific ITS projects implemented as a result of recommendations in the study may need to be added.

5. A small city decides to upgrade their signal system. Their current system is a pre-timed system with no connections to other systems. The new system will connect with their TMC to allow remote control of signal timing and to allow neighboring cities to change the timing along congested corridors during peak hours.

This project should be included in the Bay Area ITS Plan because it adds new functions to an existing system.

7. CONCLUSION

The Bay Area ITS Plan contains a list of the ITS projects in the Bay Area. These projects are categorized into eight different service areas. All ITS projects in the Bay Area should be submitted for the updated Plan provided the project does not fall under one of the following areas:

- Routine maintenance and operation of existing systems.
- Signal re-timing projects that do not implement any new hardware or software.
- Installing traffic signals at isolated intersections.
- Studies, analyses, or plans that do not implement any new hardware or software.

If an ITS project is not submitted for the Plan update, it may still be in conformance with the Architecture. The Architecture contains general project descriptions which serve as place holders for smaller projects not mentioned by name. A project that fits in one of these general project descriptions may conform with the Architecture for compliance with FHWA's Final Rule and FTA Policy.